

WHAT IS CLAIMED IS:

1. An underground storage system comprising:
an underground storage tank;
a double walled riser sump having a vertical wall and a top, the vertical
5 wall including an inner wall and a spaced apart outer wall, the outer wall and the
inner wall defining an annular space through which fluid may flow; and
a monitoring fluid reservoir in fluid communication with the annular space.
2. The underground storage system of Claim 1, wherein the reservoir is
positioned near the top, whereby the reservoir is easily accessible.
- 10 3. The underground storage system of Claim 2, wherein the reservoir is
connected to the annular space by two tubes, and the reservoir has a vent hole
formed near a top of the reservoir.
4. The underground storage system of Claim 1, further comprising a thin
film disposed within the annular space, such that liquid can flow throughout the
15 annular space.
5. The underground storage system of Claim 1, further comprising a
distance fabric disposed within the annular space, the distance fabric allowing
liquids to flow within the annular space.
6. The underground storage system of Claim 1, wherein the vertical wall is
20 formed from a riser and a collar, the collar being attached to the underground
storage tank and the riser being attached to the collar, the riser being formed from
an inner riser wall and an outer riser wall that together define a riser annular space,
the collar being formed from an inner collar wall and an outer collar wall that

together define a collar annular space, the riser annular space and the collar annular space being in fluid communication with each other.

7. The underground storage system of Claim 6, further comprising an alignment sleeve, the alignment sleeve having a first portion in a closely spaced adjacent relationship to the riser and a second portion in a closely spaced adjacent relationship to the collar.

8. The underground storage system of Claim 7, wherein the alignment sleeve is adjacent to the inner collar wall and the inner riser wall.

9. The underground storage system of Claim 7, wherein the alignment sleeve is adjacent to the outer collar wall and the outer riser wall.

10. The underground storage system of Claim 1, wherein the monitoring fluid reservoir is filled with brine.

11. The underground storage system of Claim 1, further comprising a liquid sensor disposed within the annular space.

12. The underground storage system of Claim 1, wherein the annular space is negatively pressurized.

13. The underground storage system of Claim 1, wherein the annular space is positively pressurized.

14. The underground storage system of Claim 1, wherein the underground storage tank is a double walled underground storage tank.

15. The underground storage system of Claim 1, wherein the sump is formed from fiber reinforced plastic.

16. The underground storage system of Claim 15, wherein the underground storage tank is formed from fiber reinforced plastic.

17. The underground storage system of Claim 1, wherein the sump has a round cross sectional shape.

18. The underground storage system of Claim 1, wherein the sump has a cross sectional shape in the form of a polygon having a plurality of sides.

5 19. The underground storage system of Claim 18, wherein the polygon is a regular polygon and each side of the polygon has a width sufficient for the passage of a pipe.

20. The underground storage system of Claim 18, wherein a number of sides, of the less than fourteen and more than ten.

10 21. The double walled riser sump of Claim 1, wherein the top is formed from an inner wall and an outer wall defining a top annular space, the top annular space being in fluid communication with the annular space in the vertical wall.

22. A method for forming a sump comprising the steps of:

15 attaching a vertical wall to an underground storage tank, the vertical wall including an inner wall and a spaced apart outer wall, the outer wall and the inner wall defining an annular space through which fluid may flow; and

attaching a top to the vertical wall;

20 wherein the vertical wall is attached to the underground storage tank to form a watertight connection and the top is attached to the vertical wall to form a watertight connection.

23. The method of Claim 22, further comprising the step of disposing a thin film within the annular space, such that liquid can flow throughout the annular space.

24. The method of Claim 22, further comprising the step of disposing a distance fabric within the annular space, the distance fabric allowing liquids to flow throughout the annular space.

25. The method of Claim 22, wherein the step of attaching the vertical wall
5 to the underground storage tank comprises the steps of:

attaching a collar to the underground storage tank to form a watertight connection, the collar being formed from an inner collar wall and an outer collar wall that together define a collar annular space; and

attaching a riser being to the collar to form a watertight connection, the
10 riser being formed from an inner riser wall and an outer riser wall that together define a riser annular space;

wherein the riser annular space and the collar annular space are in fluid communication with each other.

26. The method of Claim 25, further comprising the step of providing
15 alignment sleeve, the alignment sleeve having a first portion in a closely spaced adjacent relationship to the riser and a second portion in a closely spaced adjacent relationship to the collar.

27. The method of Claim 26, wherein the collar is attached to the underground storage tank prior to installation of the storage tank at a desired site
20 and the riser is attached to the collar after the underground storage tank is at the desired site.

28. The method of Claim 26, wherein the alignment sleeve is adjacent to the inner collar wall and the inner riser wall.

29. The method of Claim 22, further comprising the step of providing a monitoring fluid reservoir in fluid communication with the annular space.

30. The method of Claim 29, wherein the reservoir is connected to the annular space by two tubes, and the reservoir has a vent hole formed near a top of the reservoir.

31. The method of Claim 22, further comprising the step of disposing a liquid sensor within the annular space.

32. The method of Claim 22, further comprising the step of negatively pressuring the annular space.

33. The method of Claim 22, further comprising the step of positively pressuring the annular space.

34. The method of Claim 22, wherein the vertical wall has a round cross sectional shape.

35. The method of Claim 22, wherein the vertical wall has a cross sectional shape in the form of a polygon having a plurality of sides.

36. The method of Claim 35, wherein the polygon is a regular polygon and each side of the polygon has a width sufficient for the passage of a pipe.

37. The method of Claim 35, wherein the polygon has a number of sides, the number being less than fourteen and more than ten.

38. The method of Claim 22, wherein the top is a double walled top defining a top annular space, and the top is attached to the vertical wall such that the top annular space is in fluid communication with the annular space in the vertical wall.

39. An underground storage system comprising:

an underground storage tank; and

a double walled riser sump having a vertical wall and a top, the vertical wall including an inner wall and a spaced apart outer wall, the outer wall and the

5 inner wall defining an annular space through which fluid may flow.